ORIGINAL

VoiceStream WIRELESS

BY HAND DELIVERY

July 5, 2001

Ms. Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

RE: Ex Parte Presentation, CC Docket No. 94-102

Dear Ms. Salas:

On July 2, 2001, VoiceStream Wireless Corporation (represented by Brian O'Connor, Mark Cosgrove, and Bob Calaff) met with the Wireless Telecommunications Bureau (Tom Sugrue, Jim Schlichting, Kris Monteith, and Blaise Scinto) to brief the Bureau on VoiceStream's E911 Phase II implementation. A copy of the briefing package is attached to the letter.

Continued testing of VoiceStream's E911 Phase II location technology – NSS/EOTD – continues to provide significant evidence that EOTD can achieve at least 50 meter accuracy, with current tests demonstrating approximately 70 meter accuracy for 67 percent of calls. Further, at this point in time NSS deployment is on track for end of 2001 deployment, providing 1000 meter accuracy or better for all mobiles, including legacy handsets.

VoiceStream plans to take commercial shipments of two EOTD mobiles, including one low-end high volume handset, by October 1, 2001. However, VoiceStream will only be able to deploy its EOTD solution in a limited fashion this year. This is due primarily to delays in the provision of EOTD network equipment by Nortel and Ericsson. (Further details are provided in the attached letters from Nortel and Ericsson). Deployment of Nokia network equipment will commence in October 2001 in Houston, TX. Deployment of Ericsson equipment will begin in Washington, DC in December 2001, while deployment of Nortel equipment will begin in Denco, TX in the same time frame. VoiceStream has endeavored, wherever possible, to prioritize these and future deployments around the APCO Project Locate list.

Further, VoiceStream will be selecting a single vendor for its Gateway Mobile Location Center (GMLC), which functions as the interface between VoiceStream's network and the PSAPs for the delivery of location information. This single vendor approach will simplify PSAP interfacing. Furthermore, VoiceStream had decided to integrate a Phase I NCAS functionality into its GMLC deployment, thus ensuring that this method of delivering Phase I and Phase II location information is available nationwide to those PSAPS that need it.

VoiceStream is committed to deploying its E911 Phase II solutions as expeditiously as possible. We will continue to work with the FCC, public safety, our vendors, and the LECs to continue to be a leader in the development of location technology for the GSM community.

Pursuant to Section 1.1206 of the Commission's Rules, two copies of this letter have been filed with your office. Please do not hesitate to contact me with any questions.

Sincerely,

Brian O'Connor

Brian T. O'Connor
Vice-President
Legislative & Regulatory Affairs

Attachments

cc: Tom Sugrue
Jim Schlichting
Kris Monteith
Blaise Scinto

VoiceStream® WIRELESS

FCC Presentation

July 1st 2001

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VoiceStream

Update on Equipment Delivery

- **May 18th – Request for Pricing Completed**
  - Detailed request to six companies for pricing, delivery dates, technical details and performance details.
  - Final price and technical discussions being completed
  - All major vendors realigned their delivery dates

National Software Solution

Vendor	MSC Software	BSC Software	SMLC Hardware	SMLC Software
Nortel	Being Installed	Nov 01	Nov 01	Jan 02
Ericsson	Oct 01	Nov 01	Aug 01	Oct 01
Nokia	Installed	Dec 01	Oct 01	Dec 01

General Availability Dates. Testing and trial of software normal takes place one to two months prior to the GA date.

Testing, or First-office-Application, is performed in lab environment followed by limited field installation. Following FOA full network deployment is carried out.

E-OTD Network Deployment

Vendor	SMLC Hardware	SMLC Software	LMU Hardware
Nortel	Nov 01	May 02	May 02
Ericsson	Aug 01	Mar 02	Feb 02
Nokia	Oct 01	Dec 01	Sept 01 ~ Mar 02*

*** Depending on BTS type**

GA Dates. LMU testing in field will take place one to two months prior to the GA date
Limited quantities of LMU will be available in some cases.

Handset Timetable

Vendor	Model	Ship Date
Motorola	Barracuda	September 01
Ericsson	??	Q2 02
Nokia	3390	Q3 01

Testing of RRLP implementation will begin in September in lab, independent of SMLC solutions. End to end testing only possible once E-OTD networks operational – October timeframe.

GMLC Deployment

- **Single GMLC vendor being chosen.**
  - Available in September to November timeframe depending on choice.
  - Simplifies PSAP interface testing and delivery
  - Phase 1 NCAS solution being integrated
  - Experienced vendors with proven track record of delivering PSAP information.

VoiceStream Deployment Plans

- **NSS Solution**
  - Individual SMLC acceptance testing to be completed in Oct/Nov timeframe. Lab Integration and testing of GMLC and SMLC needs to be completed by Dec 01.
  - For two vendors, single SMLC solution allows rapid turn-on following GA.
  - For Nokia, BSC based solution involves rollout to market. 76 BSC to be upgraded starting in December timeframe.

VoiceStream Deployment Plans

- **EOTD Solution**
  - Limited field trials of commercial LMU deployments will commence:
    - Nokia in October
    - Ericsson in December
    - Nortel January 02
  - Uses same SMLC platform as NSS solution.
  - Field ramp prioritized around APCO 38 list.

VoiceStream Deployment

Nokia	Nortel	Ericsson
Houston, TX	Denco, TX	WDC
St Louis Co, MO	Richardson, TX	Anne Arundel
Orange Co, Fl	Tarrent, TX	Knox Co, TN
WA State Police,	City of Dallas	Palm Beach, FL
Minneapolis, MN	Denver, CO	Boston

Tentative rollout list, Houston, Denco and WDC will be FOA markets.

Houston – October

Denco – December/January

WDC - December

Technical Issues

- **Inter-working problems**
  - Nortel does not support BSS based SMLC, odd-man out.
  - Ericsson inter-working a big problem, affects New York, Philadelphia and Baltimore.
  - No solution possible till end 2002 – Nortel internal limitations.
- **Zoning and Site Lease Amendments**
  - LMU deployment needs amended leases and zoning requirements. Possible delay of up to 6 months in rollout in some areas.
  - No allowance in waiver for roll-out timeframe. Typical market could take three months to install.

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Richardson Texas 75082

www.nortelnetworks.com

June 1, 2001

Mr. Brian O'Connor
VoiceStream Wireless
401 – 9 Street Northwest
Washington, D.C. 20004

Re: E911 Phase 2 core network technology

Dear Mr. O'Connor:

Nortel Networks is committed to its part in enabling an end-to-end, E911 Phase 2 location information solution. As explained in this letter, Nortel Networks will supply the necessary core networking technology enabling VoiceStream and other wireless carriers using its DMS-MSC switch, when interworking with other parties and technologies, to convey location information to the Public Safety Answering Point (PSAP).[1] Despite diligent development efforts, the earliest potential compliance deadline of October 1, 2001 unfortunately will not permit Nortel Networks to make the entire tested, deployable core wireless technology generally available at that time.[2] Only a part of the overall necessary solution will be generally available for provisioning prior to October 1, 2001. The remainder of the necessary functionality will be made generally available after October 1, 2001.

Nortel Networks will provide the core network technology necessary to enable VoiceStream to implement the NSS based solution prior to December 31, 2001.[3] Interworking among multiple parties and technologies is key to successful delivery of location information to the PSAP. Not only must the multiple elements making up the core wireless networking technology interwork, but the core wireless networking technology must interwork with the technology contributions from the other parties, such as the Local Exchange Carrier (and ALI interface) and location technology solution vendors, needed for successful transmission of the E911 Phase 2 location information. Thus far, no end-to-end testing has been conducted among such necessary parties.

With the complicated interplay of technologies and multiple parties needed to provide location information to a PSAP, not to mention PSAPs nationwide, Nortel Networks strongly supports an E911 Phase 2 end-to-end trial with VoiceStream and a lead PSAP to validate the delivery and use of location information. The end-to-end service trial would model deployment of both the NSS and E-OTD[4] solutions

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[1] The Nortel Networks DMS-MSC switch is generally used by carriers to support the GSM wireless protocol.

[2] By generally available, Nortel Networks means that the product has been adequately tested and any corrections made so that the product that is available commercially to all carriers desiring to purchase or license

[3] Network Software Solution

[4] Enhanced – Observed Time Difference of Arrival

required of VoiceStream in the VoiceStream waiver[5] and would illuminate technical issues not yet apparent to the necessary parties in internal testing of their own products, as well as any interworking issues. With the issues identified and corrected, further deployment in response to valid PSAP requests will be enhanced and should be relatively trouble-free. Nortel Networks suggests that the trial results be shared with the FCC (subject to confidential treatment of proprietary and confidential information, if any) and likewise shared with NENA, APCO and other GSM carriers.

Required Components and Availability Details

As discussed previously, the E911 Phase 2 core network technology for use in connection with the DMS-MSC platform requires a combination of hardware and software which Nortel Networks has designed to operate in accordance with the E911 applicable J-STD-036 standard. The functional elements constituting the Nortel Networks E911 Phase 2 core networking technology are the Serving Mobile Location Center (SMLC) releases 1.0 and 2.0, Gateway Mobile Location Center (GMLC), the switch software and software on the RF access subsystem equipment. In order to deploy the Nortel Networks E-OTD location technology, a carrier must also install release 2.0 of the SMLC software and deploy Location Measurement Units (LMUs) with the base stations.

The E911 Phase 2 core network technology elements will be made generally available by Nortel Networks according to the following schedule:

Component	Role	GA Date
GSM13	Switch software	Q3 2001
V12.4+	RF access subsystem	Q4 2001
SMLC release 1.0	Network Software Solution	Q4 2001
SMLC release 2.0	E-OTD support	Q2 2002*
GMLC	PSAP Interface	Q1 2002
LMU	E-OTD support	Q2 2002*

*Available in limited quantities in Q1 2002.

In coordination with carrier customers, PSAPs, handset vendors and others, Nortel Networks is able to accommodate a limited number of E911 Phase 2 deployments prior to the general availability of all components of the core network technology.[6]

Even after general availability, carriers will need time to deploy the solution across the portions of their networks covered by validated PSAP requests.

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[5] In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, *Fourth Memorandum Opinion and Order,* 15 FCC Record 17442 (2000) (the Fourth Memorandum Opinion and Order).

[6] See Ex Parte submitted by Nortel Networks dated September 26, 2000.

Standards

As noted, the Nortel Networks solution is standards based.[7] Applicable standards were only approved and published last year. Generally, 18 to 24 months are needed between standard adoption and development of compatible technology. As you will note from the table set out in the above section entitled "Required Components and Availability Details", Nortel Networks has bested the usual timelines for delivery of functionality after a standard is published.

Field Trial

The field trial outlined above is proposed to take place in two phases. First, the NSS solution required in the VoiceStream waiver will be deployed and evaluated. Corrections, where necessary, will be made. Once a stable NSS solution is established in the trial location, the NSS solution can be rolled out across the Nortel Networks portion of the VoiceStream network and the second phase of the trial evaluating E-OTD will commence. Similar to the process employed with respect to NSS, with a validated E-OTD solution, the E-OTD core network technology will be rolled out across all Nortel Networks equipment in the VoiceStream network.

Nortel Networks typically trials products and software releases in the lab and in the field before making them generally available to its customers. The field trial that Nortel Networks proposes in this letter is more extensive than typical and therefore even more imperative because not only does the Nortel Networks core wireless technology need to be tested but, to address overall goal of the delivery of location information to a PSAP, that core networking technology must successfully interwork with all the other necessary parties to provide location information to the PSAP. Briefly, the interactions among components, vendors and parties to be tested may be described as follows:

1. The interworking of the individual components of the Nortel Networks core wireless network technology,
2. Since many carriers operate networks with equipment supplied by multiple vendors, network integration of solutions supplied by the various vendors,
3. Interactions between the wireless carrier's network and the location technology vendor, the LEC, the ALI database and the PSAP.

Nortel Networks proposes that the end-to-end service trial be conducted with a lead PSAP which, as a prerequisite, has installed the necessary CPE mapping and trunking facilities to use the location information derived either using the NSS and E-OTD calculation methods. The trial duration will be determined by the number

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[7] The VoiceStream waiver requirements to deploy NSS and E-OTD solutions were mandated by the FCC less than a year ago.

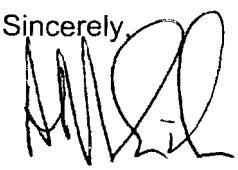
and complexity of issues encountered. Nortel Networks is prepared to work with VoiceStream to file progress reports with the FCC, subject to retention of proprietary information.

Nortel believes that APCO and NENA members will benefit through the trial process outlined in this letter. As already mentioned, Nortel Networks is prepared to share the trial results with representatives of NENA and APCO thus maximizing the return on the trial. The successful conclusion of the trial will provide a validated solution across all necessary technologies and parties. Conversely, while recognizing that the proposed trial delays roll-out of the solution to all PSAPs that have submitted valid requests by the time of the trial commencement, a risk of even greater delay exists without the field trial. To deploy a solution across the country without a model deployment that a field trial provides could lead to remedying the same issues multiple times in a serial fashion. Nortel Networks does not have the resources to deploy E911 Phase 2 to multiple PSAPs and then correct issues, that may well be identical, simultaneously. Other necessary parties, such as the location vendors and Local Exchange Carriers and even VoiceStream, may have similar limitations.

Nortel Networks notes that an issue exists over what constitutes a valid PSAP request. The impact of any delay created by the trial may be even less than currently thought if the FCC supports the contention that a PSAP must actually be capable of using location information before its request for location information is considered a valid request.

If you should have any questions, please contact Tony Smith, Director, Wireless Regulatory Affairs, Nortel Networks at (972) 685-8779.

Sincerely,



Tony Smith
Director, Wireless Regulatory Affairs
Nortel Networks

cc Jim Nixon, VoiceStream Wireless
Mark Cosgrove, VoiceStream Wireless
Doug Patterson, VP, Nortel Networks
Bill Bovenizer, Nortel Networks
Ray Strassburger, Nortel Networks

ERICSSON

July 2, 2001 EUS/RJ/G-01:273

Mr. Brian O'Connor
Vice President, Legislative and Regulatory Affairs
VoiceStream Wireless
401 9th Street N.W.
Suite 550
Washington DC 20004

Dear Mr. O'Connor,

This letter is written regarding the anticipated delivery dates for commercial quantities of E-911 Phase II equipment, which VoiceStream can deploy in its GSM network. Ericsson recognizes and commends VoiceStream for its leadership in driving the advancement of E-911 Phase II technologies for GSM. And, while this letter is specific to GSM equipment for VoiceStream, Ericsson believes carriers deploying other standards will also face challenges of rolling out equipment in commercially available quantities in the time periods specified by the E-911 Phase II requirements.

Over the past several years, Ericsson has worked diligently with industry to meet the E911 Phase II deadline set by the FCC. Ericsson's time line is impacted by the difficult and complex technical issues related to E911 Phase II location technologies and yet to be released industry wide testing certifications, which public safety agencies feel are necessary for consistent operating specifications. Based on Ericsson's best estimate at this time, location technologies for VoiceStream's GSM network will be Generally Available in commercial quantities, for initial deliveries to VoiceStream as follows:

Locating Technology	Network Equipment	Terminals
Cell Global Identity + Timing Advance (CGI+TA)	Q4 2001	(legacy)
Enhanced Observed Time Difference (E-OTD)	Q1 2002	Q2 2002

The CGI+TA locating technology will work with all legacy standard GSM terminals (and E-OTD terminals). However, the E-OTD locating technology requires new terminals plus significant equipment implementation in the network.

Prior to shipment of the foregoing technologies, Ericsson will conduct interoperability testing. These tests will be conducted between its handset and network equipment to ensure compatibility and compliance. Further, during Q1 2002, Ericsson will also conduct similar interoperability tests for E-OTD to ensure compatibility and compliance with products from other vendors.

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ERICSSON

The dates listed above do not include the time it will take VoiceStream to rollout or launch the new products. Likewise, the dates listed above do not take into account the substantial time period PSAPs and ILECs will likely need to upgrade their software and systems to accept wireless carrier location data and provide consumers the enhanced location capabilities these technologies offer and that they expect. As seen in Phase I deployment efforts, like in Texas, these upgrades can take several years. Further, based on its experience, Ericsson believes that the complete E-OTD product rollout, on a regional basis, will take twelve months or more (from expected shipment in Q1 2002) for existing networks.

If you have any further questions or need additional information do not hesitate to contact me at 425-895-3338.

Sincerely,

Barry Borzillo
Vice President

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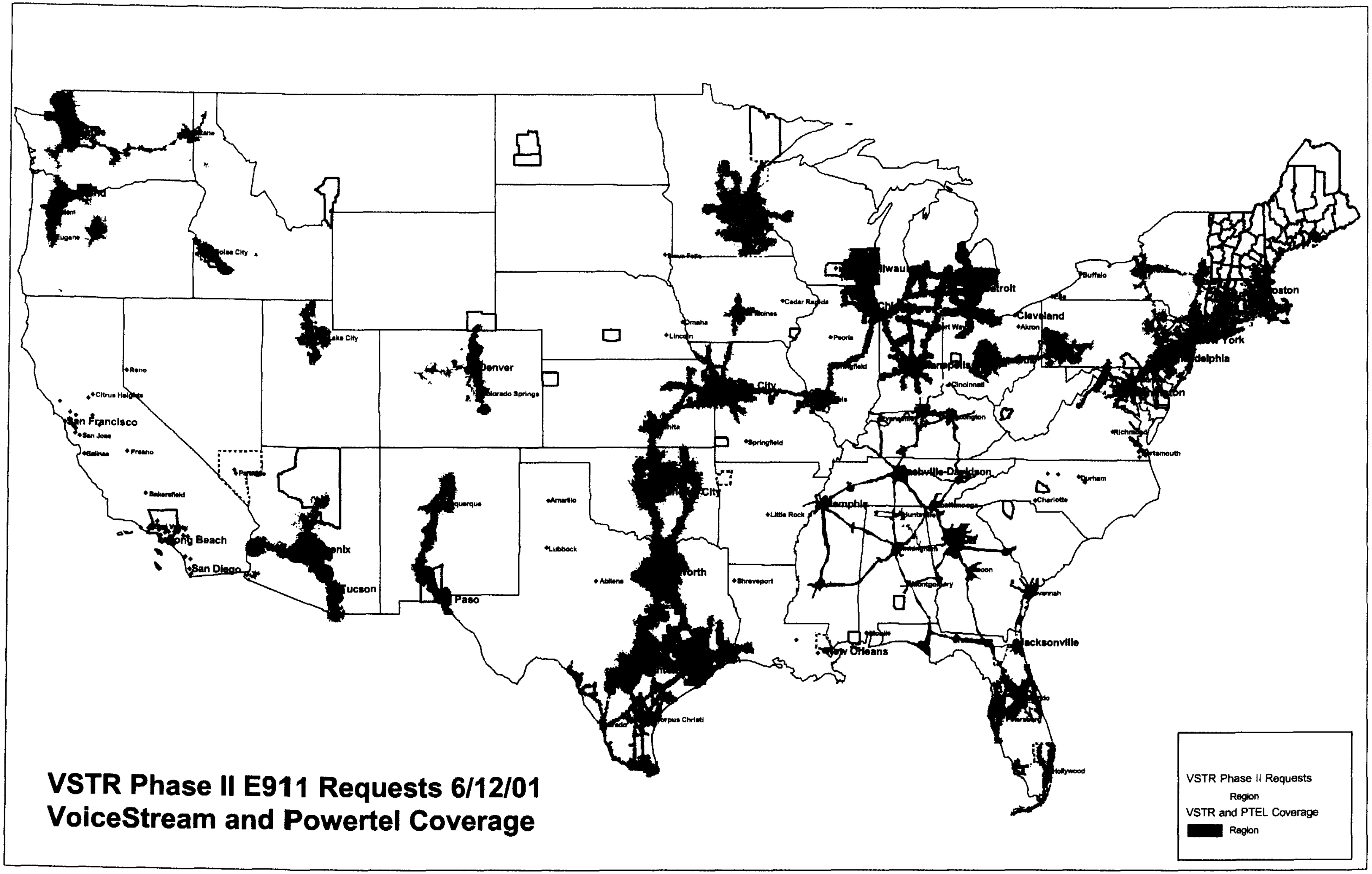
VSTR Phase II E911 Requests 6/12/01
VoiceStream and Powertel Coverage
VSTR Phase II Requests
Region
VSTR and PTEL Coverage
Region
San Francisco
San Jose
Salinas
Fresno
Bakersfield
Reno
Citrus Heights
Long Beach
San Diego
Tucson
Eugene
Boise City
Denver
Colorado Springs
Amarillo
Lubbock
Abilene
Shreveport
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